UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/477,365	01/04/2000	WAI SUM LAI	1999-0492	9145

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AT&T CORP.
P.O. BOX 4110
MIDDLETOWN, NJ 07748

EXAMINER
BLOUNT, STEVEN

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		09/477,365	LAI, WAI SUM
		Examiner	Art Unit
		Steven Blount	2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 September 2004</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 3 - 13,18, and 20 - 28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3 - 13, 18, and 20 - 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>02 June 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

9/2/2004 has been entered.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 3 – 11, 13, 18, and 20 – 28 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Applicants Admitted Prior Art (hereinafter "AAPA") in view of

U.S. patent 5,841,777 to Cohen.

        With regard to claim 1, AAPA teaches, on page 7, lines 5+, the problem of having

voice packets associated with a call shifted between time slots because time slots are

not explicitly mapped to each connection is discussed, and that this results when voice

connections are terminated is also mentioned. "Since time slots are not explicitly

mapped to each connection, if, for example, voice connection 1 is terminated, the

CMTS does not know which time slot to drop. If the third time slot is dropped, voice

connections 2 and 3 are shifted to the remaining time slots as shown in FIG. 4b" (page 7, lines 5+). It is noted that this problem is discussed with respect to constant bit rate connections, as mentioned on page 7, lines 2+.

AAPA does not, however, teach the solution to this problem to comprise establishing at least two jitter windows comprising a plurality of time slots for carrying voice packets, and the at least two jitter windows covering the entire voice region.

(It is noted that applicant has defined a jitter window as "By splitting the voice region into two approximately equal non-overlapping windows, and maintaining calls associated with the same SID within the same jitter window, jitter is limited to the duration of the jitter window" (page 13, lines 7+). Thus, the jitter window is comprised of regions of the frame where like SID's are grouped together).

Cohen teaches grouping constant bit rate and available bit rate data into separate groups for the connections within a time domain system (col 3, lines 30 – 40) of a cable TV system (col 6, lines 50+). See also the abstract.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have established "jitter windows" for the voice regions of AAPA, in light of the teachings of Cohen, in order to help prevent jitter.

· With regard to claim 3, it would be obvious to divide the window into members wherein each member has the maximum number of slots without remainder in order to optimize the use of the bandwidth resources.

With regard to claim 4, note the use of cable mentioned above.

With regard to claim 5, having the jitter windows established in one or more than one voice region would be obvious an obvious choice.

With regard to claim 6, AAPA teaches on page 3 line 14 that voice and data are transmitted over cable, and having a data region in-between would be an obvious modification.

With regard to claims 7 - 8, the number of jitter windows would be an obvious matter of choice, as would their lengths.

With regard to claim 9, see the rejection of claim 1 above including the teaching of a jitter window as defined in applicants specification, and further note that on page 4, lines 2+, it is taught that "For constant-bit-rate (CBR) voice connections, to minimize overhead, a CMTS provides unsolicited grants to a CM for periodic upstream transmission of voice packets for each CBR connection that has been established for the CM." Also, on page 3, at the bottom of the page, it is stated that the upstream transmissions are made through successive grants to different cable modems. It would be obvious to one of ordinary skill in the art maintain the jitter window assignments between the new upstream channels and the current upstream channels in order to maintain the advantages of having the SID's grouped together as discussed with respect to the rejection of claim 1 above.

With regard to claim 10, maintaining correspondence between the connections in the jitter windows as described above would make obvious having the number of idle time slots be the same between the current and new upstream channels, and further note the use of voice packets as discussed above.

With regard to claim 11, the addition of CBR slots taught in col 9 lines 14+ of

Cohen suggests "packed with first fit".

With regard to claim 13, CBR is taught in Cohen and also AAPA.

With regard to claims 18 and 20 – 28, see the rejection of claim 1 above, where

all of the apparatus limitations are discussed in combination with the rejection of the

method claims.

3.   Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Applicants Admitted Prior Art (hereinafter "AAPA") in view of U.S. patent 5,841,777 to

Cohen as applied to claim 9 above, and further in view of U.S. patent 5,295,140 to

Crisler.

AAPA/Cohen teach the invention as described above, but do not teach randomly

selecting a time slot. This is taught in Crisler. See col 6 lines 65+. It would have been

obvious to one of ordinary skill in the art at the time of the invention to have randomly

assigned an idle time slot to AAPA/Cohen in light of Crisler in order to provide an

efficient means for assigning the voice connections.

Response to Arguments

4.   Applicant's arguments with respect to the claims have been considered but are

moot in view of the new ground(s) of rejection.

571 – 272-3071

5.   Examiner Steven Blount may be reached at ~~703 – 305 – 0319~~ between the hours

of 9:00 and 5:30 Monday through Friday.

SB

11/18/04

Ajit Patel
Primary Examiner